

BINCY BABU

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PROFESSIONAL SUMMARY

Data Scientist / Machine Learning Engineer with hands-on experience in computer vision, deep learning, and end-to-end ML pipelines. Strong background in mathematics, statistics, and model development. Experienced in building production-ready ML solutions during industrial thesis at Volvo Cars. Currently expanding expertise in Generative AI, LLMs, RAG systems, and Agentic AI. Skilled in delivering data-driven solutions for real-world applications.

CORE SKILLS

- Machine Learning: Classification, Regression, Predictive Modeling, Model Optimization
- Deep Learning: CNNs, UNet, YOLO, Computer Vision, Image Segmentation
- LLMs & GenAI: Prompt Engineering, RAG, LangChain, Hugging Face
- Programming: Python, SQL, R
- Frameworks: PyTorch, TensorFlow, Keras
- Data Tools: Pandas, NumPy, Tableau, Power BI, Spotfire
- Other: Data Preprocessing, ML Pipelines, Model Deployment Basics

EXPERIENCE

- ML Engineer (Master Thesis), Volvo Car Body Components (VCBC), Sweden — Sept 2024
- Developed a deep learning-based computer vision model for defect detection in manufacturing.
- Improved model accuracy through data preprocessing, augmentation, and hyperparameter tuning.
- Collaborated with engineers to integrate the model into the production workflow.

PROJECTS

- Brain Tumor Segmentation (Streamlit App): Built a UNet-based PyTorch model for MRI tumor segmentation with real-time inference. Implemented an interactive

Streamlit interface with MRI upload, mask prediction, and high-resolution visualization.

- Privacy-Aware Object Detection (Decentralized AI): Designed a privacy-focused object detection system for assistive applications using decentralized processing.
- Object Detection (YOLO vs Custom Model): Compared YOLO models with custom architectures on COCO and domain-specific datasets.
- Tourism Forecasting: Built predictive models using time series and regression techniques to forecast tourism demand.
- Sentiment Analysis (NLP): Extracted insights from large-scale Amazon review datasets using NLP and text classification.

EDUCATION

- MSc Data Science, University of Skövde, Sweden — 2024
- MCA, Kerala University, India
- BSc Mathematics (Statistics), Kerala University, India

LANGUAGES

- English (Fluent), Swedish (Intermediate), Hindi, Malayalam